US Army Corps of Engineers®
Engineer Research and Development Center

Coastal Engineering Manual

Technology

The *Coastal Engineering Manual* (CEM) is the U.S. Army Corps of Engineers' (USACE) comprehensive technical coastal engineering manual. It includes basic principles of coastal processes, methods for computing coastal planning and design parameters, and guidance on how to formulate coastal flood studies, shore protection, and navigation projects.

Problem

During the past five decades, coastal engineering practice in the USACE and throughout most of the world was based on the *Shore Protection Manual* (1974, 1984) and its predecessor, *Technical Report #4* (1954, 1957, 1961, 1966). These manuals no longer reflect the most up-to-date technology and knowledge of coastal processes and engineering. The U.S. Government, through the Coastal and Hydraulics Laboratory (CHL), initiated preparation of the CEM in the mid-1990s, bringing together both in-house technical specialists and outside consultants who were recognized experts in particular subject areas.

Erosion along the Morgan Peninsula, Alabama. This example is shown in the CEM to help illustrate coastal diversity around the United States.

Expected Cost To Implement

The official CEM is a USACE Engineering Manual. It is available for free to general public from the Corps' Web page as a .pdf document that users can download and print on their own computers. These same .pdf files are also posted on the CHL Web site. An interactive version was developed by Veri-Tech, Inc., a private company. This version, a commercial product based closely on the CEM, includes interactive functions, formulas, and examples and ties to other analytical tools. The interactive version is free to USACE employees.

Benefits/Savings

The CEM is the USACE standard for the formulation, design, and expected performance of a broad variety of coastal projects. This expanded replacement document provides a much broader field of guidance and is designed for updates as needed to reflect the state-of-the-art in coastal science and engineering. The CEM is being used worldwide. In 2004, there were 18,314 downloads of CEM chapters from the CHL Web page. The number increased to 33,074 in 2005. During the first quarter of 2006, there were 14,100 downloads.

Status

Parts I-IV and Appendix A were officially released as USACE guidance in 2002, and Part V was released in 2003. Part VI is complete, but official release date is unknown. Currently there is no official printed copy of the CEM.

ERDC POC

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Distribution Sources

The CEM can be downloaded from the USACE or CHL Web sites free of charge. An enhanced electronic version can be purchased from Veri-Tech, Inc.

Available Training

Coastal engineering classes, based on the CEM, are periodically offered at the Coastal and Hydraulics Laboratory. Contact Dr. Steven A. Hughes, CEERD-HN-HH, (601) 634-2026, Steven.A.Hughes@erdc.usace.army.mil

Available Support

Users who encounter errors are urged to contact the program manager or the appropriate part chairman (http://chl.erdc.usace.army.mil/). At this time, CHL cannot support industry users in designing or monitoring coastal projects.